We claim:

1. An article of manufacture comprising:

a single use container having at least one chamber;

a first chamber containing a vinyl polymer solution comprising a vinyl polymer dissolved in a first solvent; and

a gellant, wherein combining the gellant with the vinyl polymer solution produces a resulting mixture that has a higher Flory interaction parameter than the vinyl polymer solution.

2. The article of manufacture of claim 1 wherein the first chamber contains a mixture of a gellant and a vinyl polymer solution comprising a vinyl polymer dissolved in a first solvent.

3. The article of manufacture of claim 1 further comprising a second chamber containing the gellant.

4. The article of manufacture of claim 3 further comprising a third chamber in functional communication with the first chamber and the second chamber and having an outflow, wherein vinyl polymer solution from the first chamber and gellant from the second chamber are mixed in the third chamber and the mixture exits from the outflow of the third chamber.

5. The article of manufacture of any one of claims 1-4 wherein the vinyl polymer is selected from the group consisting of polyvinyl alcohol, polyvinyl acetate, polyvinyl pyrrolidone and mixtures thereof.

6. The article of manufacture of any one of claims 1-4 wherein the vinyl polymer is highly hydrolyzed polyvinyl alcohol of about 50 kg/mol to about 300 kg/mol molecular weight.

7. The article of manufacture of any one of claims 1-4 wherein the vinyl polymer is highly hydrolyzed polyvinyl alcohol of about 100 kg/mol molecular weight.

8. The article of manufacture of any one of claims 1-4 wherein the vinyl polymer solution is about 1 - 50 weight percent polyvinyl alcohol based on the weight of the solution.

9. The article of manufacture of any one of claims 1-4 wherein the vinyl polymer solution is about 10 - 20 weight percent polyvinyl alcohol based on the weight of the solution.

10. The article of manufacture of any one of claims 1-4 wherein the gellant is active when contacted with the vinyl polymer solution.

11. The article of manufacture of any one of claims 1-4 wherein the gellant is inactive when contacted with the vinyl polymer solution.

12. The article of manufacture of claim 2 or 4 wherein the Flory interaction parameter of the mixture of the vinyl polymer solution and the gellant ranges from 0.25 to 1.0.

13. The article of manufacture of claim 2 or 4 wherein the Flory interaction parameter of the mixture of the vinyl polymer solution and the gellant is about 0.25 to about 0.5.

14. The article of manufacture of claim 2 or 4 wherein the Flory interaction parameter of the mixture of the vinyl polymer solution and the gellant is at least about 0.5.

15. The article of manufacture of any one of claims 1-4 wherein the first solvent is selected from the group consisting of deionized water, dimethyl sulfoxide, an aqueous solution of a C_1 to C_6 alcohol and mixtures thereof.

16. The article of manufacture of any one of claims 1-4 wherein the gellant is selected from the group consisting of salts, alcohols, polyols, polyethers, amino acids, sugars, proteins, polysaccharides, aqueous solutions thereof, and mixtures thereof.

17. The article of manufacture of any one of claims 1-4 wherein the gellant is selected from the group consisting of chondroitin sulfate, dermatan sulfate, hyaluronic acid, heparin sulfate and mixtures thereof.

18. The article of manufacture of any one of claims 1-4 wherein the gellant is selected from the group consisting of biglycan, syndecan, keratocan, decorin, aggrecan and mixtures thereof.

19. The article of manufacture of claim 16 wherein the gellant is an alkali metal salt.

20. The article of manufacture of claim 19 wherein the alkali metal salt is sodium chloride.

21. The article of manufacture of claim 20 wherein the gellant is an aqueous solution of sodium chloride from about 1.5 molar to about 6.0 molar.

22. The article of manufacture of claim 16 wherein the gellant is an aqueous solution of an alcohol chosen from the groups consisting of methanol, ethanol, i-propanol, t-propanol, t-butanol and mixtures thereof.

23. The article of manufacture of claim 16 wherein the gellant is a polyether.

24. The article of manufacture of claim 23 wherein the gellant is a polyethylene glycol having an average molecular weight of about 100 – 20,000 Da and mixtures thereof.

25. The article of manufacture of claim 23 wherein the gellant is a polyethylene glycol selected from the group consisting of PEG 100, PEG 200, PEG 400, PEG 600, PEG 1000, PEG 1500, PEG 20000 and mixtures thereof.

26. The article of manufacture of any one of claims 1-4 wherein vinyl polymer further comprises a radiopaque substance.

27. A dispenser adapted to receive the article of manufacture of any one of claims 1-4.

28. The dispenser of claim 27 further adapted to heat the article of manufacture of any one of claims 1-4.

29. A method of forming a hydrogel component comprising the steps of:
providing a hydrolyzed vinyl polymer dissolved in a first solvent;
providing an active gellant;
mixing the active gellant with the hydrolyzed vinyl polymer solution; and
allowing the mixture to form a hydrogel.

30. The method of claim 29 further comprising the steps of:
heating the hydrogel to a temperature above the melting point of crosslinks in the hydrogel to form a viscoelastic polymer solution;
delivering the viscoelastic polymer solution into an at least partially enclosed space and
allowing the delivered mixture to gel to form a hydrogel within the space.

31. The method of claim 30 wherein the step of heating the hydrogel is performed by conduction by direct or indirect contact with a heat source.

32. The method of claim 30 wherein the step of heating the hydrogel is performed by absorption by the hydrogel of infrared or microwave radiation.

33. The method of claim 30 wherein the viscoelastic polymer solution is delivered at a temperature of no more than about 50 degrees Celsius.

34. The method of claim 30 wherein the viscoelastic polymer solution is delivered at a temperature of no more than about 40 degrees Celsius.

35. The method of claim 30 wherein the space is a body cavity of a vertebrate subject.

36. The method of claim 30 wherein the space is a mold.

37. The method of claim 30 wherein the viscoelastic polymer solution conforms to the space.

38. The method of claim 35 wherein the viscoelastic polymer solution is delivered at a temperature within a few degrees Celsius of the normal body temperature of the tissue surrounding the body cavity.

39. The method of claim 35 wherein the viscoelastic polymer solution is delivered at a temperature of about 34-40 degrees Celsius.

40. The method of claim 35 wherein the space is within an intervertebral disk.

41. The method of claim 35 wherein the space is within an articulated joint.

42. The method of claim 35 wherein the space is an actual or potential subdermal space.

43. The method of claim 29 wherein vinyl polymer further comprises a radiopaque substance.

44. The method of claim 29 wherein the vinyl polymer solution contains a mixture of vinyl polymers differing in molecular weight.

45. The method of claim 30 wherein the viscoelastic polymer solution is locally chilled at the delivery entrance site to induce more rapid gelation to form a closure plug.

46. The method in claim 45 where the chilling is produced by contacting the viscoelastic polymer solution with a cooling probe.

47. The method in claim 30 wherein the walls of the enclosed space are pre-treated to induce rapid gelation of the vinyl polymer solution at the walls.

48. The method in claim 47 wherein the pre-treatment involves cooling the walls of the enclosed space with a cooling probe or by flushing with cold saline.

49. The method in claim 47 wherein the pre-treatment involves coating the interior walls of the enclosed space with the gellant.

50. The method in claim 30 wherein the liquid vinyl polymer solution in the enclosed space is locally chilled from the center after injection.

51. The method in claim 50 wherein the chilling is produced by contacting the viscoelastic polymer solution with a cooling probe.

52. The method in claim 30 wherein a barrier material is placed in the enclosed space to retard diffusion of the gellant from the hydrogel.